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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/059,765	04/14/98	HIRATA S	SONY-P8407

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EXAMINER	
SEAL, J	
ART UNIT	**PAPER NUMBER**
2766	7

DATE MAILED: 12/23/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/059,765	Shinichi Hirata
Examiner	**Group Art Unit**
James Seal	2766

☒ Responsive to communication(s) filed on *Apr 14, 1998*

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) *1-9* is/are pending in the applicat

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-9* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☒ The drawing(s) filed on *Apr 14, 1998* is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) _____ .

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is unsigned.

Appropriate correction is required.

2. Power of Attorney is unsigned.

Appropriate correction is required.

Drawings

3. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

4. Figure 1 appears to be prior art and should be labeled as such.

Specification

5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

6. The following title is suggested: Remote Control of Electrical Devices using Encrypted Messages Over Commercial Communication Links.

7. The disclosure is objected to because of the following informalities: page 4 line 16, send should be sender; page 5 line 9, after found the words 'to be' should be inserted; page 7 line 19, after electronic mail should be the words "into the Internet'; and page 32 line 13 bee should be replace by been. This list is not to be considered exhaustive but merely to list a few examples of

informalities. Applicant is responsible for proofing their application and correcting such informalities.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

8. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Disclosed Anonymously (RD38502) (which will hencefort be denoted DA) and further in view of Schneier (Applied Cryptology).

9. In claim 1 applicant recites a remote controlled receiving apparatus transmitting through a network which transmits encrypted certification information to a processor (apparatus has a means extracting, decrypting and storing control commands) to control an electronic device. Examiner notes that computers and processors by there nature have a means of extracting and a means for storing information. DA teaches a device that uses an interface with the internet, a web page with an electronic program guide and VPS or PDC codes for identifying programs, and hypertext labels with icons such as "record this" to allow a multimedia station to reproduce or record radio or television programs remotely by means of a simple point-and-click operation. The use of hypertext commands does not restrict invention, as all electrical devices need a start time and a run time. DA teaches all aspects of the appliance invention with the exception of encryption of transmitted signals (DA is silent on that teaching) and user authentication. Schneier teaches various means for encrypting a signal including classical (chapter 1) public key

(chapter 19) and symmetric key (DES chapter 12)encryption/decryption and further teaches the use of authentication (pages 52-56). The motivation to substitute secure communications encompassed by the teaching of Schneier for the clear communication taught by DA amounts to the prevention of unauthorized changes in the multimedia programing (or other electronic devices) either unintentional or intentional. Such changes could be minor such as missing a TV program because someone changed the scheduling on the VCR or very serious, if the device remotely controlled is a power grid. Claim 1 is rejected under 103.

10. In claim 2, applicant recites an apparatus with the limitations of claim 1 and further with a means for executing control commands stored in memory of the receiving apparatus. DA teaches an apparatus for controlling multimedia (or other electrical devices) by remote control. Examiner notes that in order to control a device remotely, control commands must be sent between the user and the device being controlled. Thus DA must issue control commands through hypertext. Claim 2 is rejected under 103.

11. In claim 3, applicant recites an apparatus with the limitations of claim 1 and further where certification information is predetermined information in an encrypted state. Schneier teaches on page 52 of a mention of authenticating the ID of a user by sending password information to the receiver and the receiver then compares this with previously stored information. Claim 3 is thus anticipated by the teachings of Schneier and is rejected under 103.

12. In claim 4, applicant recites an apparatus with the limitations of claim 1, and further limits the claim by use of public key and the authentication carried out by use of the owner

secrete key. Schneier discusses public key authentication pages 53-54 in particular its use with the user's private key is discussed the top of page 54.

13. In claim 5, applicant recites a method for implementing the apparatus of claim 1. It therefore contains the same limitations with respect to art as claim 1 and is therefore rejected under 103.

14. In claim 6, applicant recites a transmitting apparatus with a means of encryption of the control commands and the predetermined certification information, an inputting this information as an electronic signal (such as E-mail) on to a network (such as the Internet). DA teaches a communication link consisting of a transmitter and receiver (the pc or terminal used to connect to internet forms the transmitter and the processor controlling the multimedia station) is the receiver.. Again DA is silent on the use of encryption; however, there are means for the user to encrypt messages, files or signals sent over the Internet if they choose to do so. Schneier does teach encryption and certification. Gènerally such certification requires some predetermined information such as a radom number, etc. The motivation for substituting the clear text of DA with that of the secure communications taught by Schneier was discussed in 9. Claim 6 is rejected under 103.

15. In claim 7, applicant recites a method for implementing the apparatus of claim 6. It therefore contains the same limitations with respect to art as claim 1 and is therefore rejected under 103.

16. In claim 8, applicant recites a device consisting of a transmitter and receiver such that their is an encryption part in the transmitter, which can encrypt commands and certification transmit this information over a network to a receiver which extracts the commands and certification information, stores the commands and decrypts the certification comparing it with stored information to designated user. If user is authenticated, stored commands are executed. DA teachings do consist of a transmitter and receiver and transmittions over a communication link (in particular the Internet) between them. In addition DA teaches the transmission of control commands over such a network to be received and control electronic devices at the receiving end. DA is silent on encryption and authentication though the user may choose to encrypt any information sent over the internet he chooses. Schneier teaches the basic techniques of public key and symmetric key cryptology together with authentication protocols. The motivation of combining the two arts would have been obvious to a person skilled in the art, for example, the Internet is subject to tampering either unintentional or intentional. Further such a device would also be subject to ease dropping and the potential loss of sensitive information if such information were transmitted over such a network in the clear, such as a pin number at an ATM machine (a device which enables a user through an interface to control a money dispenser via a communications network remotely). Claim 8 is thus rejected under 103.

17. In claim 9, applicant recites a methods implementation of claim 8. It therefore contains the same limitations with respect to art as claim 1 and is therefore rejected under 103.

References Cited But Not Used

18. The examiner wishes to point out a number of patents/articles cited but applied which are relevant to this application. The use of remote control via encrypted communication links is at least as old as the patent issued to Hedy Kiesler Markey (Hedy Lamarr) and George Antheil Secret Communication System in August 1941. This patent is important for a number of reasons. It was the first application of remote control of an electronic device (a steerable torpedo) over an encrypted communication link (so that the control commands are secure) and the first application of spread spectrum communications (to prevent jamming). Kobayashi (JP 7322371) teaches the remote control of household appliances (television, VCR, air condition using) a by using a digital cordless phone connected to data equipment by a transmission line (see Figure 1) such as a personal computer remotely by radio waves. Another patent Ugajin, US 5652892 July 1997, describes a method of controlling remote power sources (an electrical device) with a check of user ID (authentication) and password control over a network (e.g. Internet) with security. Finally, a patent by EP917052 Remotely Controlling Device Over Internet uses a lab top to control devices A ... N remotely from over the internet (see figure 1). These patents are listed to show an unbroken link in remote control technology leading to the development of remotely controlled devices using the Internet.

Conclusion

19. Any inquiry concerning this communication should be direct to James Seal at telephone number (703) 308 4562. The examiner can normally be reached on Monday through Friday from 7:30 a.m. to 5:30 p.m.

20. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gail Hayes, can be reached at (703) 305-9711.

21. Any inquiry of a general nature or relating to the status of this application or preceding should be directed to the Group receptionist, whose telephone number is (703) 305-3800. Fax number is (703) 305 9731.

jws

Gail Hayes

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